PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Taro AOYAMA

Application No.: New U.S. National Stage of PCT/JP2005/010447

Filed: April 10, 2006 Docket No.: 127692

For: METHOD OF DETERMINING CETANE NUMBER OF FUEL IN INTERNAL COMBUSTION ENGINE

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

☒ 1. This Information Disclosure Statement is being filed (a) within three months of the U.S. filing date of this non-CPA application, OR (b) before the mailing date of a first Office Action on the merits in the present application. No certification or fee is required.

☒ 2. Relevance of one or more non-English language reference is discussed in the present specification. See References 1-5.

☒ 3. One or more reference cited herein was cited in the International Search Report. An English language version of the International Search Report is attached for the Examiner's information. See References 2, 6, 9 and 10.

☒ 4. A concise explanation of the relevance of one or more non-English language reference cited herein appears in the Appendix attached hereto. See References 1-8.

☒ 5. An English language Abstract of one or more non-English language reference is attached hereto. See References 1-8.

☒ 6. A computer-generated English language translation of one or more Japanese Patent Publication cited herein has been obtained from the website of the Japanese Patent Office ([http://www.jpo.go.jp]), and is attached, but has not been reviewed for accuracy. See References 1 and 3-6.

Respectfully submitted,

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Form PTO-1449 (REV. 1/06)	US Dept. of Commerce PATENT & TRADEMARK OFFICE	ATTY DOCKET NO. 127692	APPLICATION NO. New U.S. National Stage of PCT/JP2005/010447 10/575169
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		APPLICANT Taro AOYAMA	
		FILING DATE April 10, 2006	

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number	Date	Name

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number	Date	Country	With English Abstract	With English Translation
	1.	JP A 2000-257419	9/19/2000	JAPAN	X	X
	2.	JP A 3-105042	5/1/1991	JAPAN	X	
	3.	JP A 5-223026	8/31/1993	JAPAN	X	X
	4.	JP A 5-172699	7/9/1993	JAPAN	X	X
	5.	JP A 2001-329905	11/30/2001	JAPAN	X	X
	6.	JP A 2002-201997	7/19/1992	JAPAN	X	X
	7.	JP A 64-68659	3/14/1989	JAPAN	X	
	8.	JP U 1-59853	4/14/1989	JAPAN	X	
	9.	EP 1 033 479 A2	9/6/2000	EUROPE		
	10.	EP 1 074 839 A1	2/7/2001	EUROPE		

OTHER DOCUMENTS

Examiner Initials	Cite No.	(Including Author, Title, Date, Pertinent Pages, etc.)

EXAMINER	DATE CONSIDERED

Examiner: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Date: April 10, 2006

Appendix

(1) JP P2000-257419A:

In an internal combustion engine, a cetane value of fuel is measured from a pressure rising amount which is caused by a cool-flame reaction occurred by a fuel injection made in the early stage in a compression stroke.

(2) JP 03-105042A

A cetane value of fuel is measured based on a specific gravity and conductivity of the fuel, and the fuel injection control is changed according to the measured cetane value.

(3) JP 05-223026A

A nature of fuel is measured based on a refractive index and electric conductivity of the fuel.

(4) JP 05-172699A:

A compression ratio is so adjusted that a period of time of ignition delay is brought to a reference value, and the cetane value is measured based on the compression ratio of that time.

(5) JP P2001-329905A:

A cetane value of fuel is measured based on a pressure change in a cylinder during a period from the fuel injection time to the end of combustion of the fuel.

(6) JP P2002-201997A:

A cetane value of fuel is measured based on a period of time required for starting the internal combustion engine when the fuel injection is performed after having performed the cranking by a starter motor.

(7) JP 64-068659A

This reference discloses an arrangement wherein a bypass passage is provided to the fuel pipe, and a magnetic tube is provided at the midway of the bypass passage. Then the fuel is flowed into the magnetic tube, and the magnetic tube is subjected to vibration by a high frequency vibrator. Then, a fuel density is measured from the number of vibrations at that time, and subsequently, a cetane value of fuel is measured based on the fuel density.

(8) Utility Model Laid-Open Publication No. 01-59853
Laid-Open Date: April 14, 1989
Title: DEVICE FOR DETECTING A CETANE VALUE OF FUEL
Utility Model Application No. 62-154346
Filing Date: October 8, 1987
Inventor: Makoto KATOH, c/o TOYOTA
Applicant: TOYOTA MOTOR CORP.

This reference discloses an arrangement wherein a light emission section which emits an infrared light is provided to the fuel pipe, and a cetane value of fuel is measured based on an amount of absorption of light by the fuel.